

1. A railway wheel made of a steel having a pearlite structure and containing silicon in a concentration sufficient to shift a nose region of the steel's pearlite starting curve  $P_s$  (in a continuous cooling transformation curve diagram wherein time is plotted on an X axis and temperature is plotted on a Y axis) far enough toward the Y axis (zero point in time) that said curve  $P_s$  will encounter a cooling curve that, after a skid, descends from a point in an austenite region that is above the  $P_s$  curve before the cooling curve descends to the steel's martensite starting temperature curve  $M_s$ .

2. The wheel of claim 1 wherein the steel's silicon content is from 1.1 to 3.0 weight percent.

3. The wheel of claim 1 wherein the steel's carbon content is from 0.60 to 1.0 weight percent.

4. The wheel of claim 1 wherein the steel's manganese content is from 0.45 to 0.85 weight percent.

5. The wheel of claim 1 wherein the steel's sulfur content is less than 0.05 weight percent.

6. The wheel of claim 1 wherein the steel's phosphorus content is less than 0.05 weight percent.

7. The wheel of claim 1 wherein the steel further comprises from 0.5 to 1.0 weight percent chromium.

8. A railway wheel made of a steel having a pearlitic structure and further comprising (by

weight): 0.60 to 0.85 percent carbon, 1.1 to 2.0 percent silicon, 0.45 to 0.85 percent manganese, less than 0.050 percent sulfur and less than 0.050 percent phosphorus, with the remainder of said steel being iron and incidental impurities.

9. The wheel of claim 8 wherein the steel's carbon content is from 0.67 to 0.77 weight percent.

10. The wheel of claim 8 wherein the steel's manganese content is from 0.60 to 0.85 weight percent.

11. The wheel of claim 8 wherein the steel's silicon content is from 1.3 to 2.0 weight percent.

12. A railway wheel made of a steel having a pearlitic structure and further comprising (by weight): 0.60 to 0.85 percent carbon, 2.0 to 3.0 percent silicon, 0.45 to 0.85 percent manganese, less than 0.050 percent sulfur and less than 0.050 percent phosphorus, with the remainder of said steel being iron and incidental impurities.

13. The wheel of claim 12 wherein the steel's carbon content is from 0.60 to 0.85 weight percent.

14. The wheel of claim 12 wherein the steel's manganese content is from 0.60 to 0.85 weight percent.

15. The wheel of claim 12 wherein the steel's silicon content is from 1.3 to 2.5 weight percent.

16. A railway wheel made of a steel having a pearlitic structure and further comprising (by weight): 0.60 to 0.85 percent carbon, 1.1 to 2.0

5      percent silicon, 0.45 to 0.85 percent manganese,  
0.50 to 1.0 weight percent chromium, less than 0.050  
weight percent sulfur and less than 0.50 weight  
percent phosphorus, with the remainder of said steel  
being iron and incidental impurities.

17. The wheel of claim 16 wherein the steel's  
carbon content is from 0.67 to 0.77 weight percent.

18. The wheel of claim 16 wherein the steel's  
manganese content is from 0.60 to 0.75 weight  
percent.

19. The wheel of claim 16 wherein the steel's  
silicon content is from 1.3 to 2.0 weight percent.

5      20. A railway wheel made of a steel having a  
pearlitic structure and further comprising (by  
weight): 0.60 to 0.85 percent carbon, 2.0 to 3.0  
percent silicon, 0.45 to 0.85 percent manganese,  
0.50 to 1.0 weight percent chromium, less than 0.050  
weight percent sulfur and less than 0.50 weight  
percent phosphorus, with the remainder of said steel  
being iron and incidental impurities.

21. The wheel of claim 20 wherein the steel's  
carbon content is from 0.67 to 0.77 weight percent.

22. The wheel of claim 20 wherein the steel's  
manganese content is from 0.60 to 0.75 weight  
percent.

23. The wheel of claim 20 wherein the steel's  
silicon content is from 1.3 to 2.5 weight percent.